

Monforton Elementary
Gallatin County
Statutory Priority: #1 (Public Health & Safety)
Quality Schools Grant Program Projects
2013 Biennium

This application received 280.1 points out of a possible 500 points and ranked #31 out of 66 ranked applications.

Funding Source	Type of Funds	Amount	Project %
Commerce	Quality Schools Project Grant	\$385,737	89% of Project
Monforton Elementary	Building Reserve	\$25,000	5.5% of Project
Monforton Elementary	Capital Improvements	\$25,000	5.5% of Project
Project Total		\$435,737	

Project Summary

History – Monforton School was first built as a one-room rural K-8 school in 1993. It is located at the four corners area between Bozeman and Belgrade and is growing rapidly. In 2006, the district had 160 students enrolled. Today, the enrollment is 201 students. In the 2010-2011 school year, this school is expecting to reach 215 or more students in the kindergarten through 8th grades. The increased population and the facility expansion on this original four acre site have reduced the buffer zone between the school building and the county road access. Expansion to the immediately adjacent property is not possible due to the neighboring residences. The only opportunity for expansion of the site is across Monforton School Road, which the school district has acquired with ten acres purchased in 1990 and 10 acres recently donated. However, the school does not have safe access to this land.

Problem – The School District has the following deficiencies:

- The current parking and vehicular access is confined to the east side of the school buildings along Monforton School Road. Once used for local traffic only, Monforton School Road has now become a major county road. The parking areas along the road require that cars back into the road, which is unsafe. Bus and parent drop off areas are not separated and occur at the same drive location at the northern end of the east access driveway. In the mornings and afternoons, the area is nearly impossible to manage this area safely. The layout leads to unsafe congestion and conflicts between buses and parents.

Proposed Solution – The proposed project would:

- Bring about the conditions necessary for abandoning the portion of the Monforton School Road directly in front of the school building, a goal the District has worked toward during the past five years. The request for abandonment is currently being processed with the Gallatin County Commission. The abandoned area will be turned into a pedestrian plaza area with a portion of the road remaining for Fire Service access only. Fire Service vehicles and emergency vehicles will access the area through access gates. Turnarounds will be added to both ends of the abandoned areas. These turnarounds will serve as parent drop off areas on both the north and south ends. The north end will also include a bus drop off and turnaround. Modifications will be made to improve parking, bus access and drop off, visitor and staff parking, pedestrian circulation within the existing school site and between the school and the associated uses across the current road.

**Eureka Elementary
Lincoln County
Statutory Priority: #4 (Energy Efficiency Improvements)
Quality Schools Grant Program Projects
2013 Biennium**

This application received 279.3 points out of a possible 500 points and ranked #32 out of 66 ranked applications.

Funding Source	Type of Funds	Amount	Project %
Commerce	Quality Schools Project Grant	\$499,377	100% of Project
Project Total		\$499,377	

Project Summary

History – Eureka Elementary applied for and received a Quality Schools Project Grant in the first round of funding. The grant addressed the replacement of 38 original vent tube steam heaters with modern thermostatically controlled heater/ventilators in the classrooms in the Middle School and Elementary buildings. Unfortunately a large number of heaters were missed in the original walk-through and further grant assistance is needed to complete the heater upgrade. The community has been supportive in the past but cannot afford an additional tax burden at this time. Completing this project would result in significant energy savings, as addressed in a 2009 energy audit. Estimated savings for this portion of the project would be \$7,149 per year.

Problem – The school district has the following deficiencies:

- ☐ Old heaters remain in the offices, restrooms and hallways at the middle and elementary school buildings.

Proposed Solution – The proposed project would:

- ☐ Replace remaining heating/ventilating units and integrate them into the electronic control system.

**Terry K-12 Schools
Prairie County
Statutory Priority: #4 (Energy Efficiency Improvements)
Quality Schools Grant Program Projects
2013 Biennium**

This application received 276.1 points out of a possible 500 points and ranked 33 out of 66 ranked applications.

Funding Source	Type of Funds	Amount	Project %
Commerce	Quality Schools Project Grant	\$50,000.00	80% of Project
Terry K-12 Schools	Building Reserve	\$12,845.00	20% of Project
Project Total		\$62,845.00	

Project Summary

History – The school automotive shop is a converted bus barn with a lean-to extension on the east side. The structure has been used as the high school shop since the early 60s. The barrel part of the roof is rolled roofing set in tar and is more than 20 years old. The addition is roofed with hypalong, which is at the end of its useful life of 15 years. The roof insulation is shown as a 100 percent deficiency on the 2008 FCI report.

Problem – The School District has the following deficiencies:

- ☐ The roof on the school shop building is beyond its useful life and in need of new roof insulation.

Proposed Solution – The proposed project would:

- ☐ Re-roof and insulate the roof on the Terry K-12 automotive shop building.

**Denton Public Schools
Fergus County
Statutory Priority: #4 (Energy Efficiency Improvements)
Quality Schools Grant Program Projects
2013 Biennium**

This application received 269.5 points out of a possible 500 points and ranked 34 out of 66 ranked applications.

Funding Source	Type of Funds	Amount	Project %
Commerce	Quality Schools Project Grant	\$231,340.00	100% of Project
Project Total		\$231,340.00	

Project Summary

History – Denton School was constructed in 1930 and is 42,515 square feet. The heating system is a coal-fired steam boiler and radiation/convector system. The boiler is located in a mechanical room addition on the east side of the school and serves low pressure steam throughout the school and the agriculture building. The boiler is a steel fire tube Kewanee brand boiler that was installed in 1988 during a planned boiler replacement project. The boiler is near service life and per the energy audit completed August 2009; a recommended boiler replacement should be planned.

Problem – The school district has the following deficiencies:

- ❑ Denton School has many boiler deficiencies which in turn is causing excessive money to be spent in energy costs and unneeded repairs. The project will involve replacing the current coal-fired boiler with a new 2,500,000 BTU steam boiler with an ash removal system and pneumatic tube soot blowers included with the boiler. The additional items (ash removal system and pneumatic tube soot blowers) will allow the boiler to operate cleaner and more efficiently as well as allow the boiler to be operated with little to no health risks, reducing liability risk to the school district.

Proposed Solution – The proposed project would:

- ❑ The existing components, such as the chemical fed system, condensate pup system, and boiler control.

**Plains Public Schools
Sanders County
Statutory Priority: #6 (Enhance Educational Opportunities)
Quality Schools Grant Program Projects
2013 Biennium**

This application received 265.3 points out of a possible 500 points and ranked #35 out of 66 ranked applications.

Funding Source	Type of Funds	Amount	Project %
Commerce	Quality Schools Project Grant	\$1,242,875	96% of Project
Plains Public Schools	Deferred Maintenance	\$49,850	4% of Project
Project Total		\$1,292,725	

Project Summary

History – The Plains Public School District has numerous parent and family member restraining orders creating an administrative nightmare at the Wildhorse School, which currently has no administrator on site. The building has had to invest “good money” to keep the building up to state codes. The Wildhorse School has experienced a great deal of dry rot in the floors, and the DEQ had to inspect for mold on two different occasions.

Problem – The School District has the following deficiencies:

- ❑ Six classrooms, the Title 1 reading and special education rooms, the janitorial storage room and the restrooms will be replaced by a new facility. Additionally, technology and communications rooms, and administrative offices will be added to the new facility. The new classrooms will have higher energy efficiency with new lighting, and the heat systems will change from electronic to propane systems. The insulation in the new building will be in compliance with current codes than the building from 1938. The new classrooms will also be ADA compliant as the current building is 100 percent deficient due to handicap access being unavailable, both for entrance and getting to the upper floor classrooms. The new classrooms will be attached to the main campus technology and communications network enhancing communication and learning opportunities.

Proposed Solution – The proposed project would:

- ❑ Construct a 9,500 square foot classroom addition to accommodate grades K-2 and create a single K-12 campus for the Plains School District. The project's budget reflects the intended base bid of classrooms and related support spaces and casework. Additional casework and lockers will be bid as alternates, funded from the project's contingency plan. The Wildhorse School will be moved from the present location to the main campus of Plains Public Schools. This move will increase the safety of approximately 95 students in the K-2. The current building was constructed in 1938 and has no ADA compliance at this time. This current location causes the K-2 students to have to walk to the main campus on a daily basis, creating a deficit of instructional time equaling 15 days per year (45 days for a three year period).

**Dutton/Brady K-12 Schools
Teton County
Statutory Priority: #4 (Energy Efficiency Improvements)
Quality Schools Grant Program Projects
2013 Biennium**

This application received 263.7 points out of a possible 500 points and ranked 36 out of 66 ranked applications.

Funding Source	Type of Funds	Amount	Project %
Commerce	Quality Schools Project Grant	\$150,000.00	100% of Project
Project Total		\$150,000.00	

Project Summary

History – Recently the windows were upgraded, making the building “tighter” and the need for fresh air more apparent. McKinstry took CO2 readings in the facility to identify areas of deficiency. Field measurements indicate the lack of fresh air in the Dutton Schools has resulted in higher than desirable CO2 levels in the building. Finally, the existing unit ventilators are too old to supply the needed outside air. Building maintenance personnel have worked hard over the years to keep the system running to the best of their ability and have consulted regularly with experts in the field, but the bottom line is that the current pneumatic controls are an old technology that is well past its time.

Problem – The school district has the following deficiencies:

- ❑ Replacement of all of the existing pneumatic controls in the Dutton School building with Direct Digital Controls. These controls will control outside air dampers in the unit ventilators. The control will allow the dampers to close during unoccupied times and employ night setback for energy savings. Replacement of ten unit ventilators, primarily in the high school. The units are being replaced as the existing units are too old to support outside air. Replace elementary school boiler plant, insulate bare pipes, and install high efficiency motors, retro-commission, and update high school boiler plant as part of the larger energy project.

Proposed Solution – The proposed project would:

- ❑ The Dutton/Brady school system will correct the lack of outside air in their classrooms by upgrading to Direct Digital Control and by replacing ten existing unit ventilators that are not currently capable of introducing the needed fresh air. Direct Digital Controls will allow the dampers in the unit ventilators to close during unoccupied times and employ night setback for energy savings. This will be accomplished as part of a larger performance contract project proposed by McKinstry. The energy savings were identified in the Quick Start study provided by MMK will help fund the projects. The performance contract will fund approximately half of the repairs through energy savings. We have asked for the Quality Schools grant to help fund the portion of the project with the longest payback, caused by the reintroduction of outside air. The Dutton School building currently lacks adequate outside air and are out of compliance with ASHRAE 62.1 and the International Building Code (which suggests 15 CFM per student of outside air be introduced to the building). In the energy project, we will correct this issue. The existing pneumatic controls have made it too difficult to use the unit ventilators as they were originally designed to bring in fresh air.

**Elder Grove Elementary
Yellowstone County
Statutory Priority: #4 (Energy Efficiency Improvements)
Quality Schools Grant Program Projects
2013 Biennium**

This application received 258.5 points out of a possible 500 points and ranked 37 out of 66 ranked applications.

Funding Source	Type of Funds	Amount	Project %
Commerce	Quality Schools Project Grant	\$50,790.00	86% of Project
Elder Grove Elementary	Deferred Maintenance	\$8,500.00	14% of Project
Project Total		\$59,290.00	

Project Summary

History – Currently there is no way to set the temperature back at night in the school building, therefore the equipment runs at full capacity all of the time. This wastes large amounts of energy. The classrooms do not have individual temperature controls which can lead to a less than optimal learning environment.

Problem – The school district has the following deficiencies:

- ☐ Classrooms lack individual temperature control units. Buildings HVAC system does not have night time set back ability.

Proposed Solution – The proposed project would:

- ☐ Replace old electronic controls with building wide DDC controls with night set back.

**Belgrade High School
Gallatin County
Statutory Priority: #4 (Energy Efficiency Improvements)
Quality Schools Grant Program Projects
2013 Biennium**

This application received 249 points out of a possible 500 points and ranked 38 out of 66 ranked applications.

Funding Source	Type of Funds	Amount	Project %
Commerce	Quality Schools Project Grant	\$101,625.00	100% of Project
Project Total		\$101,625.00	

Project Summary

History – Belgrade High School was built in the early 1960's and most of the building lacks any controls upgrades since that time. The district provides an energy audit that estimates a 10-15% saving annually if these controls are upgraded to newer energy efficient DDCs.

Problem – The school district has the following deficiencies:

- ☐ Belgrade High School is using 1960's era pneumatic controls on their HVAC system.

Proposed Solution – The proposed project would:

- ☐ Replace old pneumatic controls with new DDC controls.

**Florence Carlton K-12 Schools
Ravalli County
Statutory Priority: #4 (Energy Efficiency Improvements)
Quality Schools Grant Program Projects
2013 Biennium**

This application received 242.8 points out of a possible 500 points and ranked 39 out of 66 ranked applications.

Funding Source	Type of Funds	Amount	Project %
Commerce	Grant	\$550,000.00	85% of Project
Florence Carlton K-12 Schools	Performance Contracting	\$100,000.00	15% of Project
Project Total		\$650,000.00	

Project Summary

History – The district is requesting funding for a boiler replacement that will allow the district to replace the existing low efficiency unit that has come to the end of its expected service life. The left boiler is 15 years old and the right boiler is a 40 year old boiler that provides steam heat to the system.

Problem – The school district has the following deficiencies:

- ☐ Florence Carlton is currently using two boilers for their heating system that are beyond their useful life.

Proposed Solution – The proposed project would:

- ☐ Replace the two older boilers and some of the steam condensate piping associated with these units.

**Billings Elementary
Yellowstone County
Statutory Priority: #2 (Code Compliance)
Quality Schools Grant Program Projects
2013 Biennium**

This application received 242.6 points out of a possible 500 points and ranked 40 out of 66 ranked applications.

Funding Source	Type of Funds	Amount	Project %
Commerce	Quality Schools Project Grant	\$281,142.00	90% of Project
Billings Elementary	Building Reserve	\$31,238.00	10% of Project
Project Total		\$312,380.00	

Project Summary

History – Burlington Elementary School, located at 2135 Lewis Ave, Billings, MT, is a single story structure originally constructed in 1956 with additions completed in 1957. It is an educational facility for the Billings School District No. 2. The building roof area, approximately 38,430 square feet includes a large area of the low slope roof that is in excellent condition (11,400 square feet). The remaining 27,030 square feet of roof on the facility is a Hypalon (CSPE) roof membrane that is in poor condition and is beyond its useful service life.

Problem – The School District has the following deficiencies:

- ❑ In 2005, 11,400 square feet of roof over the south wing of the building was replaced with a 60-mil reinforced EPDM roof membrane and tapered, R-22 (average) polyisocyanurate insulation package. The remaining 27,030 square feet of roof on the facility is a Hypalon (CSPE) roof membrane that is in poor condition, beyond its useful service life.

Proposed Solution – The proposed project would:

- ❑ Replace the roof at Burlington Elementary School in Billings, MT.

**Sheridan Elementary
Madison County
Statutory Priority: #4 (Energy Efficiency Improvements)
Quality Schools Grant Program Projects
2013 Biennium**

This application received 302 points out of a possible 500 points and ranked #41 out of 66 ranked applications.

Funding Source	Type of Funds	Amount	Project %
Commerce	Quality Schools Project Grant	\$78,118.00	33% of Project
Sheridan Elementary	Building Reserve	\$157,857.00	67% of Project
Project Total		\$235,975.00	

Project Summary

History – Sheridan Elementary School, which houses 199 students, has fluctuating heat that spikes up to temperatures that melt plastic and crayons, thus causing a fire hazard. This project would remove old pneumatic thermostats with digital units that can be operated by a computerized system, thus controlling the heating and cooling system for the entire building that is used year around as a K-12 educational facility and an adult education facility.

Problem – The School District has the following deficiencies:

- ☐ The old HVAC system in the Sheridan Elementary has old malfunctioning controls that do not allow temperatures to be regulated.

Proposed Solution – The proposed project would:

- ☐ Replace the old pneumatic controls with new DDC controls that would allow for temperature regulation.

**Gildford Colony Elementary
Hill County
Statutory Priority: #2 (Code Compliance)
Quality Schools Grant Program Projects
2013 Biennium**

This application received 240.7 points out of a possible 500 points and ranked 42 out of 66 ranked applications.

Funding Source	Type of Funds	Amount	Project %
Commerce	Quality Schools Project Grant	\$543,000.00	58% of Project
Gildford Colony Elementary	In Kind	\$364,000.00	40% of Project
Commerce	Quality Schools Planning Grant	\$25,000.00	2% of Project
Project Total		\$932,000.00	

Project Summary

History – Gildford Colony would like to construct a new facility that meets all ADA codes, IDEA mandates, Montana building codes and Montana accreditation standards. The facility would provide an area of 6536 square feet, sufficient space to support primary and intermediate grade classrooms, kindergarten learning center, computer and science laboratory, library, special education instruction area, gym area for physical education indoor instruction and physical therapy. In addition, there would be necessary areas for storage, teacher preparation, and an office for an administrator and/or clerk. If the new facility were constructed, energy consumption would be less than currently used for nearly 6 times the square footage.

Problem – The School District has the following deficiencies:

- ☐ The current school was purchased in 1972 and remodeled into primary and intermediate classrooms. In spite of regular renovation, the facility continues to deteriorate. The building is not ADA compliant at this time.

Proposed Solution – The proposed project would:

- ☐ Construct a new school for the district that is ADA compliant as well as meeting all Montana building codes and accreditation standards.

**Glasgow K-12 Schools
Valley County
Statutory Priority: #4 (Energy Efficiency Improvements)
Quality Schools Grant Program Projects
2013 Biennium**

This application received 235.6 points out of a possible 500 points and ranked 43 out of 66 ranked applications.

Funding Source	Type of Funds	Amount	Project %
Commerce	Quality Schools Project Grant	\$986,032.00	100% of Project
Project Total		\$986,032.00	

Project Summary

History – The Glasgow HVAC system renovation that is proposed for the 2013 Biennium Quality Schools Grant Application is a major component replacement as well as an internet based control and automation retrofit. The existing boiler, classroom heating and ventilation units, and heating system pumps are in different stages of failure or operational condition. The integrated control system is proposed in an effort to provide remote assistance for energy monitoring and troubleshooting services for little or no cost to the remote school district.

Problem – The school district has the following deficiencies:

- ☐ The heating and ventilation system in the Eastside Elementary School is in various stages of failure or disrepair.

Proposed Solution – The proposed project would:

- ☐ All existing classroom unit ventilators will be replaced with new units that will contain CO2 demand ventilation for each classroom.
- ☐ The original boilers will be replaced with 3 94% efficient staged boilers.
- ☐ The entire existing pneumatic control system will also be replaced.

**Townsend K-12 Schools
Broadwater County
Statutory Priority: #1 (Public Health and Safety)
Quality Schools Grant Program Projects
2013 Biennium**

This application received 207.5 points out of a possible 500 points and ranked #44 out of 66 ranked applications.

Funding Source	Type of Funds	Amount	Project %
Commerce	Quality Schools Project Grant	\$380,000	97% of Project
Townsend K-12 Schools	General Fund	\$5,202	1.5% of Project
Townsend K-12 Schools	Metal Mines Fund	\$5,000	1.5% of Project
Project Total		\$390,202	

Project Summary

History – A renovation occurred more than 30 years ago on the 48-year-old Townsend Elementary School, but at this time, the fresh air make-up system was taken out of operation. The McKinstry Commissioning Report provided with the Quick Start Grant pointed out this deficiency. CO2 readings were taken to identify areas of deficiency; follow up field measurements were used to underscore the lack of fresh air in the Townsend Schools. This measurement results in higher than desirable CO2 levels in the elementary wings of the building. ASHRAE standards recommend classroom spaces should be controlled to less than 1,000 parts per million (PPM). Two examples are 1710 PPM CO2 measured in the common hallway in the western wing and 1118 PPM CO2 measured in a third grade (unoccupied) classroom.

Problem – The School District has the following deficiencies:

- ❑ Inadequate indoor air quality conditions needed to be corrected to prevent public health issues. There are three deficiencies are being addressed. (1) Elementary School – adding fresh air makeup units to reduce the CO2 levels by replacing the makeup air handlers in the elementary wings of the building with new, heat recovery units. The building also has asbestos which will be removed. (2) Gym – correcting the heating unit that could put products of combustions into the space. The gym will have its hazardous gas heat section removed and converted to hot water, supplied by the existing boilers. (3) Study Hall – replacing the undersized variable air volume box that restricts airflow with a box of the appropriate size. This will increase the airflow to reduce CO2 levels.

Proposed Solution – The proposed project would:

- ❑ Replace the make-up air handlers in the elementary wings of the building with new heat recovery units. Remove asbestos from contaminated areas. The gym unit will have its hazardous gas heat section removed and converted to hot water, which will be supplied by the existing boilers. The variable air volume box that restricts airflow will be replaced with a box of the appropriate size.

**Ekalaka Elementary
Carter County
Statutory Priority: #1 (Public Health and Safety)
Quality Schools Grant Program Projects
2013 Biennium**

This application received #302 points out of a possible 500 points and ranked #45 out of 66 ranked applications.

Funding Source	Type of Funds	Amount	Project %
Commerce	Quality Schools Project Grant	\$1,542,500.00	94% of Project
Ekalaka Elementary	Building Reserve	\$90,000.00	6% of Project
Project Total		\$1,632,500.00	

Project Summary

History – The existing elementary school in the Town of Ekalaka, Montana, was originally constructed in the 1920/1930's and an addition was constructed in the 1950/1960's. The existing facility is seriously out-dated and presents both serious public health issues and safety problems.

Problem – The school district has the following deficiencies:

- The original school building, which was constructed in the 1920/1930's is now approaching 80 or 90 years of age. The addition to the original school was constructed during the 1950/1960's and is now approaching 50 to 60 years of age. Recent research was unable to absolutely confirm the date of construction but a report prepared by Associated Construction Engineering, Inc., an engineering firm chartered to do an energy audit of the existing facility, made reference to the above dates and the district has relied on this information as being correct. The existing elementary school has long outlived its life expectancy and is no longer capable of being utilized for its intended purpose; i.e., an educational facility capable of being an institution of higher learning in the 21st century.

Proposed Solution – The proposed project would:

- The project would replace the existing elementary school in Ekalaka, MT. and replace it with a new facility that meets and is in compliance with all of the State of Montana's accreditation standards and those of all local, state and federal requirements. The only financially viable solution to resolve all of the existing deficiencies and problems is to construct a new educational facility that will safely serve the educational needs of the elementary students for current and future generations.

**Forsyth Elementary
Rosebud County
Statutory Priority: #4 (Energy Efficiency Improvements)
Quality Schools Grant Program Projects
2013 Biennium**

This application received 205 points out of a possible 500 points and ranked 46 out of 66 ranked applications.

Funding Source	Type of Funds	Amount	Project %
Commerce	Quality Schools Project Grant	\$453,536.00	96% of Project
Forsyth Elementary	Building Reserve	\$2,000.00	.5% of Project
Forsyth Elementary	Protested Tax Payments	\$4,200.00	1% of Project
Forsyth Elementary	Impact Aid	\$11,400.00	2.5% of Project
Project Total		\$471,136.00	

Project Summary

History – Forsyth Schools has actively pursued energy savings upgrades by already installing T-8 electronic ballast and lamps in existing fixtures. There are ceiling occupancy sensors in some but not all areas of the schools. The existent exit lights are LED's which were installed at the time of the retrofit. There are not occupancy sensors in classrooms. The boilers and controls were replaced in Forsyth High School in 2000, with energy efficient boilers and controls. Replacement of all district windows occurred in the 2007 school year, with energy efficient low e glass. A video security system was installed in both district buildings in 2004-2005 in response to providing a safe educational setting for the students and staff. During the reroofing projects throughout the Forsyth School District which was begun in 2008 and completed in 2010, additional insulation was added to the foot structure prior to replacing the bladder membrane. In 2010, additional insulation was added to the roof structure prior to replacing the bladder membrane. In 2010, Forsyth Public Schools downloaded PC management software onto each computer, specifically designed to automatically turn on and off computers, optimize computer performance, and reduce computer based power consumption.

Problem – The school district has the following deficiencies:

- At Forsyth Elementary, the problems being addressed by this grant request are replacement of the boilers, repair of the fan systems, and updating the controls systems for the entire elementary school. The two original cast iron sectional hot water boilers and associated heating equipment are inefficient, obsolete, and beyond their useful life. The proposed new boilers are high efficiency modulating condensing boilers, which provide significant energy savings. The four fan systems providing heating, cooling, and ventilation require mechanical repairs, and significant controls repairs. The combination of outdated technology pneumatic controls and the age of the controls equipment have resulted in a system that has problems maintaining adequate heating, cooling, and ventilation requirements required for office and classroom comfort. As a result of these problems, the district maintenance demands associated with this building are ever-increasing. Implementation of the work proposed in this grant request will result in increased occupant comfort, decreased maintenance needs, and decreased energy usage. Repairs to the fan systems and controls replacement will result in significant increases in comfort and efficiency, and decreased maintenance requirements. In addition, the pneumatic controls equipment will be converted to electric, eliminating the maintenance and operating costs associated with pneumatic controls. This project implements findings and recommendations that were identified by the Montana Quick Start Energy Grants Program Energy Audit performed in September of 2009.

Proposed Solution – The proposed project would:

- Forsyth Elementary School Proposed Energy Retrofit; implementation of the energy conservation measures, including recommendations from energy studies performed with Montana Reinvestment Act Funding. Based on the Energy Audit completed by WTR Consulting Engineers in September, 2009, the following areas were identified: Replacement of existing original 1970's cast iron sectional boilers with new modulating condensing high efficiency boilers and associated near boiler piping. Install two new building distribution pumps with variable frequency drives. Install new digital control system for new boilers and pumps, four building AHU fan system, and 36 offices and classrooms to allow scheduling, temperature reset strategies, night setback, morning purge, and advanced control

strategies. At Forsyth Elementary, the mechanical systems providing heating, cooling and ventilation for the building are in need of repairs due to aging mechanical equipment and dated systems that are beyond economical repair. The two cast iron sectional hot water boilers and associated heating equipment are inefficient, and beyond their useful life, resulting in frequent and costly repairs, especially due to the difficulty in finding obsolete parts. The proposed new boilers are high efficiency modulating condensing boilers, which provide significant energy savings. The four fan systems serving the building have been properly maintained over the years, but require temperature controls updates due to outdated and failed pneumatic control components. The existing pneumatic controls require frequent calibration, and by their nature have limited accuracy which decreases significantly over time. Presently portions of the fan system controls are disconnected and being run manually, and in the case of one fan system, it has been turned off and not run for several years. Replacement of pneumatic controls with electronic controls increases the accuracy and capabilities of the controls system, and also eliminates the need for temperature control air, which is a significant cost to the school district in both energy and maintenance. Presently the approximately 36 offices and classrooms in the building have pneumatic controls with no central monitoring and setback capabilities. The proposed controls update will include new web-based DDC controls for the fan systems and room control. In addition to enhanced control and remote access and support capabilities, the new DDC system will allow for implementation of advanced energy saving controls strategies, including heating water temperature reset, room temperature setback, AHU discharge temperature reset, and variable speed pumping control strategies. In addition, the majority of the pneumatic controls equipment will be converted to electric eliminating the maintenance and operating costs associated with pneumatic controls.

**East Helena Elementary
Lewis & Clark County
Statutory Priority: #4 (Energy Efficiency Improvements)
Quality Schools Grant Program Projects
2013 Biennium**

This application received 203 points out of a possible 500 points and ranked #47 out of 66 ranked applications.

Funding Source	Type of Funds	Amount	Project %
Commerce	Quality Schools Project Grant	\$150,000	86% of Project
East Helena Elementary	General Fund	\$25,000	14% of Project
Project Total		\$175,000	

Project Summary

History – Radley School was built in 1962 with an addition in 1978. The school currently has two 1.55 million BTU boilers that heat a 66,900 square foot building using hot water and fin tubes in the classrooms. Classrooms overheat due to the non-modulating single set point boilers. Some classrooms must be cooled with small air conditioners while the heat is running. This is especially the case on the south side of the building. Both boilers are over 30 years old and are estimated to run at 72% efficiency. They are near the end of their service life and will soon be recommended for replacement. Additionally, the boilers are obsolete as a result of the sale of the Kewanee Company in 2002 to Burnham, which discontinued production of Kewanee replacement parts. This makes repairs difficult and expensive.

In addition to saving the district money on repairs, the replacement of the old boilers offers an opportunity to improve energy efficiency in the long-term. The district proposes to install state-of-the-art boilers that boast 98% efficiency. Energy savings would amount to \$2,612 per year with the new boilers. Factoring in the amount spent on repairs of the current boilers, the district would see payback in 10 years.

Problem – The school district has the following deficiencies:

- ☐ Boilers at Radley Elementary are nearing the end of their useful life and are expensive to repair. They also cause overheating in classrooms due to their control system.

Proposed Solution – The proposed project would:

- ☐ Remove old Kewanee boilers and replace with efficient Lochinvar boilers. The existing distribution system would be maintained.
- ☐ Install Direct Digital Controls.

NOTE – The district will, of its own accord, remediate the existing 175 feet of asbestos piping in the boiler room.

**Huntley Project K-12 Schools
Yellowstone County
Statutory Priority: #4 (Energy Efficiency Improvements)
Quality Schools Grant Program Projects
2013 Biennium**

This application received 200 points out of a possible 500 points and ranked #48 out of 66 ranked applications.

Funding Source	Type of Funds	Amount	Project %
Commerce	Quality Schools Project Grant	\$698,000	87% of Project
Huntley Project K-12 Schools	General Fund	\$100,000	13% of Project
Project Total		\$798,000	

Project Summary

History – An arson-related fire destroyed the High School and the facility is currently being replaced. As part of the planning for the new facility a "Facility Review and Evaluation" was commissioned and completed in May 2009. The architects identified several areas on campus that needed to be addressed. The existing Junior High building is used for classrooms and the gymnasium. A recent multipurpose addition houses locker rooms, a weight room and wrestling facilities. Upon completion of the new High School, the classroom wing of the Junior High will likely be demolished, but the gym will remain. Mechanical systems (heating and ventilation) in the gym will need to be replaced and the district wishes to integrate the multipurpose addition into the new system. The existing gymnasium uses a 1950s oil-fired boiler and steam radiators. The radiators are a safety hazard and basketball games can no longer be played at this location.

Problem – The School District has the following deficiencies:

- ☐ The old heating and ventilation systems in the Junior High gymnasium must be replaced if the gym is to be maintained as a useful facility for the district.

Proposed Solution – The proposed project would:

- ☐ Replace the 1950s era oil-fired boiler with propane-fired hot water condensing boilers.
- ☐ Remove and replace the related fuel storage.
- ☐ Replace steam radiators in the gym with hot water unit ventilators and provide adequate ventilation.
- ☐ Integrate the existing hot water system in the multipurpose building with the new hot water boilers.

**Billings High School
Yellowstone County
Statutory Priority: #1 (Public Health & Safety)
Quality Schools Grant Program Projects
2013 Biennium**

This application received 195 points out of a possible 500 points and ranked 49 out of 66 ranked applications reported to the 2011 Legislature.

Funding Source	Type of Funds	Amount	Project %
Commerce	Project Grant	\$296,557.00	90% of Project
Billings High School District	Building Reserve	\$32,951.00	10% of Project
Project Total		\$329,508.00	

Project Summary

History – During the 2009-2010 school year, Skyview enrolled 1,481 students and employed 139 staff. The school, built in 1985, has 239,000 square feet. This past school year, district maintenance personnel spent eight days looking for an electrical short causing excessive temperature issues in several interior building rooms. This occurred when the circuit boards, exposed to heat, caused an electrical short and failure. This will occur more frequently with more severe consequences as the system, now 25 years old, runs out of repair options.

Problem – The school district has the following deficiencies:

- This project replaces an antiquated and failing obsolete temperature control system at Skyview High School. The company no longer manufactures the system making it impossible to find spare parts to fix the system when it fails. As the system fails the education environment is compromised through excessive heat or no heat. The failed system requires emergency maintenance expenditures resulting in higher operating cost. Additional concerns involve safety issues. As the circuit boards are exposed to heat, it creates more opportunities for electrical shorts and failures. For example, this spring district maintenance personnel spent eight days looking for an electrical short causing excessive temperature issues in several interior building rooms. When the system fails, we lose the ability to control the building temperature and indoor air quality. If a failure were to occur during extreme weather, the potential exists that the building temperature would drop to a hazardous level which may prevent building use and potential damage, creating an unsafe condition for students and staff. The new system will optimize the operation of the existing equipment, improve the learning environment by stabilizing interior space temperatures, and reduce energy consumption reducing utility costs which leads to improved learning environment by increasing funds available for education.

Proposed Solution – The proposed project would:

- Billings Public Schools built Skyview High School in 1985, the year the STEAFA Controls System was installed. The Skyview model was phased out of production in 1995 with newer systems incorporating more advanced technology. The district purchased spare parts on the secondary market until 2000. Reconditioned parts were available until 2003. Since then, the district has scavenged smaller systems for spare parts. Now, in 2010, no more spare or scavenged parts exist. This poses major safety issues for students and staff. As the equipment ages, the circuit

boards are exposed to heat causing electrical shorts and failure. A failure impacts interior air quality creating a condition referred to as a sick building. This project proposes replacing the building temperature control system with an updated digitally controlled system. This is a prevention measure. If this system fails, we will have serious health and safety impacts.

**Lincoln K-12
Lewis & Clark County
Statutory Priority: #6 (Enhances Educational Opportunities)
Quality Schools Grant Program Projects
2013 Biennium**

This application received 192.7 points out of a possible 500 points and ranked #50 out of 66 ranked applications reported to the 2011 Legislature.

Funding Source	Type of Funds	Amount	Project %
Commerce	Project Grant	\$2,064,653	97% of Project
Lincoln K-12 School District	Flex Fund	\$22,121	1% of Project
Lincoln K-12 School District	Building Fund	\$15,839	>1% of Project
Lincoln K-12 School District	Building Reserve	\$12,551	>1% of Project
Lincoln K-12 School District	General Fund	\$10,000	>1% of Project
Lincoln K-12 School District	CIDM	\$4,000	>1% of Project
Project Total		\$2,129,164	

Project Summary

History –The gymnasium utilized by the Lincoln K-12 School was constructed in 1977 and was designed for the elementary school. Prior to the mid 1970's the Lincoln Elementary School did not have a gymnasium for students to use for physical education or athletic activities. The students used the community hall, a small building in town, approximately a half mile from the school building for limited physical education and athletic activities. In 1977, community members supported the construction of a small gymnasium near the Lincoln Elementary School building. In June 1978, the aging wooden elementary schoolhouse in Lincoln burned down. Fortunately, the new gymnasium was nearing completion not far from the burned down school. In the fall of 1978, school resumed two weeks late in a portioned gym with 91 students enrolled in first through eighth grade. A new elementary school was constructed adjoining the gym and was occupied in the winter of 1980. In June, 1982, the Lincoln High School District was formally created by the Superintendent of Public Instruction. The class of 1983 was the first graduating class from Lincoln High School. With an addition on the high school, competitive athletics were added to the extracurricular offerings for the district's students.

Problem – The School District has the following deficiencies:

- ❑ The playing surface is six feet short of a regulation basketball court. The space between the playing surface and end walls do not meet the minimum space requirements. The bleacher seating is inadequate for the designed spectator occupancy load. When the bleachers are in place on either side of the playing court, the aisle way width is inadequate between the court line and the first row of seating, posing a danger to players, spectators and officials. People entering the gymnasium area often times track snow and water on to the playing surface and small aisle way causing another danger to players, spectators and officials. The locker and shower rooms

are small and inadequate for PE classes and extracurricular activities and do not meet ADA requirements. Given that this is the only athletic facility; practices are held at 6:00 AM (prior to the school day), and from after school at 4:15 until 8:30 PM. This scheduling makes a really long day for student athletes. The multi-purpose gymnasium is in constant use as it is utilized for extracurricular activities (practices and games), K-12 physical education classes, breakfast and lunch dining area, assemblies, Christmas and spring concerts, and a variety of school and community programs. When the gymnasium is used to conduct an assembly, concert or other activity, the physical education classes have to be cancelled.

Proposed Solution – The proposed project would:

- ☐ Construct a new gymnasium facility. The district has conducted an education facility evaluation and review, completed the FCI report and had an energy audit review completed. This information has been utilized by a committee to determine a justifiable and acceptable vision for the future of our district. Several key issues have been discussed, evaluated and incorporated in this plan including, the desired educational program, the adequacy and/or needs of the present facility and a new facility, projected enrollments, and the financial considerations of the district and community. The most economical plan for this facility would be to construct the gymnasium to the East of the school building on school-owned land. At the present time, the lack of additional funding from the district or the community is the main reason for applying for financial assistance through a grant program.

**Browning Public Schools
Glacier County
Statutory Priority: #3 (Accreditation Standards)
Quality Schools Grant Program Projects
2013 Biennium**

This application received 191.8 points out of a possible 500 points and ranked 51 out of 66 ranked applications reported to the 2011 Legislature.

Funding Source	Type of Funds	Amount	Project %
Commerce	Project Grant	\$442,106.00	97% of Project
Browning Public School District	Impact Aid	\$12,500.00	3% of Project
Project Total		\$454,606.00	

Project Summary

History – The proposed project will complete the Browning High School physical education complex that remains unfinished due to a lack of funds. The project would complete the unfinished 4,570 square foot area adjacent to the gymnasium with utilities, electricity, water, HVAC system, a completed fire alarm system and all architectural finishes. The completed project would include a weight and cardio room for physical education instruction, a laundry room, finished locker rooms, and physical education teacher offices enabling students to take a variety of physical education courses to meet their graduation requirements.

Problem – The school district has the following deficiencies:

- ☐ The Browning High School physical education complex remains unfinished due to funding shortfalls.

Proposed Solution – The proposed project would:

- ☐ Finish the construction on the physical education complex including water, electricity, fire alarm, weight room, locker rooms, and teacher offices.

**Manhattan Elementary School
Gallatin County
Gallatin County Statutory Priority: #1 (Public Health & Safety)
Quality Schools Grant Program Projects
2013 Biennium**

This application received 45 points out of a possible 500 points and ranked #66 out of 66 ranked applications reported to the 2011 Legislature.

Funding Source	Type of Funds	Amount	Project %
Commerce	Project Grant	\$52,925	100% of Project
Project Total		\$52,925	

Project Summary

History – The electrical service for Manhattan Elementary has been at the top of the district's project list since it was identified by a facilities assessment in 2006. The project has been rejected as a bond item twice in the years since. The project was added to a list of maintenance items and has been pushed back due to major system failures (boiler and roof) in 2009 and 2010. The main electrical service and panel are now obsolete and must be replaced. It has become a safety concern due to exposed wire connections. Staff has worked to minimize risks, but continued operation without maintenance poses the threat of electrical failure and the school has no back-up power.

Problem – The School District has the following deficiencies:

- ☐ The existing electrical service and panel is original to the facility and replacement parts can no longer be found to repair it.

Proposed Solution – The proposed project would:

- ☐ Replace the electrical service with a modern system.

**Poplar Public Schools
Roosevelt County
Statutory Priority: #1 (Public Health & Safety)
Quality Schools Grant Program Projects
2013 Biennium**

This application received 50 points out of a possible 500 points and ranked 65 out of 66 ranked applications reported to the 2011 Legislature.

Funding Source	Type of Funds	Amount	Project %
Commerce	Project Grant	\$97,398.00	76% of Project
Poplar Public School District	Impact Aid	\$30,000.00	24% of Project
Project Total		\$127,398.00	

Project Summary

History – Four of the rooftop HVAC units at the Poplar Elementary School were installed in the late 1970s and two of the units were installed in the mid-1980s. These units are prone to failure because they are beyond their useful life by 10 to 15 years. When one of the units fails, a specialty repair shop must be consulted as replacement parts are unobtainable. During a unit failure, the use of supplemental electric heaters poses as a student safety issue.

Problem – The School District has the following deficiencies:

- ☐ The rooftop HVAC units at Poplar Elementary School are not dependable and beyond their useful life by 10 to 15 years.

Proposed Solution – The proposed project would:

- ☐ Replace the rooftop units with new energy efficient units.

**Missoula Public Schools
Missoula County
Statutory Priority: #1 (Public Health & Safety)
Quality Schools Grant Program Projects
2013 Biennium**

This application received 302 points out of a possible 500 points and ranked #21 out of 66 ranked applications reported to the 2011 Legislature.

Funding Source	Type of Funds	Amount	Project %
Commerce	Project Grant	\$200,000.00	91% of Project
Missoula Public School District	Building Reserve	\$20,000.00	9% of Project
Project Total		\$220,000.00	

Project Summary

History – Missoula County Public Schools' project consists of the design and installation of fire sprinkler systems in the Williard Alternative High School and the Meadow Hill School. MCPS has installed fire sprinkler systems in most of their older schools, including Jefferson School, Lowell School, Franklin School, Hawthorne School and Hellgate High School.

Problem – The School District has the following deficiencies:

- ☐ Williard Alternative High School and Meadow Hill School lack fire suppression systems.

Proposed Solution – The proposed project would:

- ☐ Design and install fire sprinkler systems in Williard and Meadow Hill School.

**Valier Public Schools
Pondera County
Statutory Priority: #4 (Energy Efficiency)
Quality Schools Grant Program Projects
2013 Biennium**

This application received 90 points out of a possible 500 points and ranked 63 out of 66 ranked applications reported to the 2011 Legislature.

Funding Source	Type of Funds	Amount	Project %
Commerce	Project Grant	\$115,000.00	96% of Project
North Western Energy	Rebate	\$5,200.00	4% of Project
Project Total		\$120,200.00	

Project Summary

History – The Valier Public School System consists of three main buildings. The high school building is a 47,258 square feet. The Elementary school is an 18,572 square foot building and the shop building is 5,500 square feet. The school serves 177 students enrolled in kindergarten through twelfth grade. The existing boiler and re-circulating pumps were installed when the buildings were built in the mid 1960s. The boiler and pumps have been well-maintained, but are nearing the end of their useable life. New equipment will provide better reliability and will consume less energy than the existing equipment.

Problem – The School District has the following deficiencies:

- ☐ The boiler and re-circulating pumps in the Valier School are nearing the end of their useable life.

Proposed Solution – The proposed project would:

- ☐ Replace the old boiler system with a new, energy efficient boiler and re-circulating pumps.

**Paradise Elementary
Sanders County
Statutory Priority: #4 (Energy Efficiency)
Quality Schools Grant Program Projects
2013 Biennium**

This application received 112.5 points out of a possible 500 points and ranked 62 out of 66 ranked applications reported to the 2011 Legislature.

Funding Source	Type of Funds	Amount	Project %
Commerce	Project Grant	\$48,800.00	100% of Project
Project Total		\$48,800.00	

Project Summary

History – The Paradise Elementary School's oil heated steam boiler is approximately 70 years old. It is outdated and highly inefficient, with estimates running at 50 to 60 percent efficiency. This old boiler is difficult to service and maintain because parts are difficult to find. Although the boiler is still passing inspections, the inspector has said that he has serious concerns about how much longer it will operate safely.

Problem – The School District has the following deficiencies:

- ☐ The Paradise Elementary boiler is 70 years old and operates inefficiently.
- ☐ Repairs to the boiler are difficult because parts are not readily available.

Proposed Solution – The proposed project would:

- ☐ Replace the old boiler with a new Burnham boiler that operates at 80 to 85 percent efficiency.

**Laurel Public Schools
Yellowstone County
Statutory Priority: #4 (Energy Efficiency)
Quality Schools Grant Program
2013 Biennium**

This application received #302 points out of a possible 500 points and ranked #21 out of 66 ranked applications reported to the 2011 Legislature.

Funding Source	Type of Funds	Amount	Project %
Commerce	Grant	\$785,998.00	97% of Project
Commerce	Planning Grant	\$21,777.00	3% of Project
Project Total		\$807,775.00	

Project Summary

History – There are two main objectives to the Laurel High School project. The first objective is to replace a very dated and failing roof structure on the high school building. The second objective is to increase the R value on the new roof to realize energy savings and also add to the comfort level of the facility. The project would involve removing the existing bladder and paver system and repair any damage to the roof deck, install layers of insulation board to provide an R value of R-18 at the drains and R-49 at the ridge and install a complete single ply membrane roofing system. The project would also install flashing and a new metal drip edge to match the existing material. According to the energy audit provided by MKK Engineers the district could realize energy savings of \$26,000.00 per year.

Problem – The School District has the following deficiencies:

- ☐ The roof of Laurel High School is approximately 28 years old and is beginning to fail.
- ☐ The roof of Laurel High School lacks adequate insulation.

Proposed Solution – The proposed project would:

- ☐ Replace the failing high school roof and increase the R value of the insulation to R-18.

**Creston Elementary
Flathead County
Statutory Priority: #2 (Code Compliance)
Quality Schools Grant Program
2013 Biennium**

This application received 115 points out of a possible 500 points and ranked 60 out of 66 ranked applications reported to the 2011 Legislature.

Funding Source	Type of Funds	Amount	Project %
Commerce	Project Grant	\$2,150,000.00	63% of Project
Creston Elementary School District	Building Reserve	\$45,000.00	1% of Project
Creston Elementary School District	In Kind	\$25,000.00	1% of Project
Creston Elementary School District	Bond	\$1,206,650.00	35% of project
Project Total		\$3,426,650.00	

Project Summary

History – Original building constructed in 1895 with assorted later additions not built to a master plan.

Problem – The school district has the following deficiencies:

- ☐ Current problems which are to be resolved by a new build project: (1) current site's proximity to highway 35 raises safety and noise issues (2) inadequate classroom and storage space for growing enrollment (3) asbestos, inefficient layout, lack of proper ventilation and air conditioning (4) handicap accessibility due to different floor heights (5) aged and non compliant infrastructure (6) gym and basement prone to flooding

Proposed Solution – The proposed project would:

- ☐ Build a new and expanded elementary school on a nearby site owned by the district.

**Glendive Public Schools
Dawson County
Statutory Priority: #4 (Energy Efficiency)
Quality Schools Grant Program Projects
2013 Biennium**

This application received 130 points out of a possible 500 points and ranked 59 out of 66 ranked applications reported to the 2011 Legislature.

Funding Source	Type of Funds	Amount	Project %
Commerce	Project Grant	\$245,000.00	62% of Project
Glendive Public School District	Building Reserve	\$149,000.00	38% of Project
Project Total		\$394,000.00	

Project Summary

History – Dawson County High School is planning to install electronic heating controls in all classrooms, cafeteria, auditorium and gymnasium. Changing to digital controls and rehabilitating the existing motors will save the district between 25-30 percent on its heating and cooling costs annually. The district is funding phase 1 for \$149,000.00 out of building reserve funds. To finish phase 2, the district will need \$245,000.00 to replace the pneumatic controls in each classroom and upgrade the heating and cooling system.

Problem – The School District has the following deficiencies:

- ☐ Dawson High School is using old pneumatic heating controls that were installed in 1964. These controls are inefficient and undependable.

Proposed Solution – The proposed project would:

- ☐ Install new energy efficient DDC controls throughout Dawson High School.

**Woodman Elementary
Missoula County
Statutory Priority: #4 (Energy Efficiency)
Quality Schools Grant Program Projects
2013 Biennium**

This application received 152.5 points out of a possible 500 points and ranked 58 out of 66 ranked applications reported to the 2011 Legislature.

Funding Source	Type of Funds	Amount	Project %
Commerce	Project Grant	\$67,000.00	92% of Project
Woodman Elementary School District	Building Reserve	\$5,666.00	8% of Project
Project Total		\$72,666.00	

Project Summary

History – The Woodman Elementary School was built in 1984 and currently uses the original electric heat system that was installed at that time. An energy audit was done by J.G. Engineering the summer of 2009, which indicated that the school could benefit from the installation of ground source heat pumps. This project would also provide ventilation for the three school buildings which currently is nonexistent. The audit suggests an expected payback of twelve years.

Problem – The School District has the following deficiencies:

- ☐ The Woodman School is using an electric heating system that has been in place since 1984 with no updates or changes.

Proposed Solution – The proposed project would:

- ☐ Install five ground-source heat pumps which would allow for building ventilation as well as increased energy efficiency.

**Anaconda Public Schools
Deer Lodge County
Statutory Priority: #2 (Code Compliance)
Quality Schools Grant Program Projects
2013 Biennium**

This application received 157.5 points out of a possible 500 points and ranked #57 out of 66 ranked applications reported to the 2011 Legislature.

Funding Source	Type of Funds	Amount	Project %
Commerce	Project Grant	\$150,000	50% of Project
Anaconda Public School District	Reserves	\$150,000	50% of Project
Project Total		\$300,000	

Project Summary

History – The current facility for the vocational programs was decommissioned by the Board of Trustees in February 2010 based on the recommendation of a building task force. The 1928 facility is not accessible and is noncompliant with local fire codes. The Office of Public Instruction cited this facility as one of concern for vocational programs. The relocation of these programs to a vacated single-story school facility built in the early 1950's will allow for a safer environment with adequate ventilation and space. It will also be accessible for all students wishing to enroll in vocational programs. Dwyer Intermediate School, which has been vacant for the past five years, will be the new location for these programs.

Problem – The School District has the following deficiencies:

- ☐ The current vocational education facility has been decommissioned by the Board of Trustees due to it not meeting local fire codes and being inaccessible.

Proposed Solution – The proposed project would:

- ☐ Retrofit the vacant Dwyer Elementary facility for the purpose of housing vocational programs and relocate programs to that facility.

**Belt Public Schools
Cascade County
Statutory Priority: #4 (Energy Efficiency)
Quality Schools Grant Program Projects
2013 Biennium**

This application received 161.9 points out of a possible 500 points and ranked 56 out of 66 ranked applications reported to the 2011 Legislature.

Funding Source	Type of Funds	Amount	Project %
Commerce	Project Grant	\$329,120.00	100% of Project
Project Total		\$329,120.00	

Project Summary

History – The existing rooftop ventilation unit is 22 years old and operates poorly. This unit was constructed just when the air- to- heat exchangers were first being applied commercially and significant advances have been made to the technology. Because of poor performance and operation, this unit is often off and not providing any classroom ventilation.

The fan coils serving the 2 story core area of the building are often turned off because the noise interferes with classroom instruction. When the fan coils are off, no ventilation is being provided to the classrooms.

Problem – The school district has the following deficiencies:

- ☐ The rooftop ventilation system for the Belt School building is 22 years old and operates inefficiently.

Proposed Solution – The proposed project would:

- ☐ Project would install new rooftop units and upgrade classrooms to DDC Controls. Also, install a carbon dioxide sensor and replace the unit ventilators in the science classrooms.

**Montana City Elementary
Jefferson County
Statutory Priority: #1 (Public Health & Safety)
Quality Schools Grant Program Projects
2013 Biennium**

This application received 162.5 points out of a possible 500 points and ranked #55 out of 66 ranked applications reported to the 2011 Legislature.

Funding Source	Type of Funds	Amount	Project %
Commerce	Project Grant	\$751,110	100% of Project
Project Total		\$751,110	

Project Summary

History – There are no fire hydrants located on the Montana City School's property to provide fire protection for the school. The 2009 International Fire Code requires varying fire flows to be available depending on building construction type and the fire area. Currently the school is more than 67,000 square feet in size, which requires a fire flow of 3,750 gallons per minute for a minimum of three hours. If the entire school was protected by a fire sprinkler, the fire flow would be reduced to 1,500 gallons per minute for two hours. This lower amount would be much more realistic for the volunteer fire department to provide adequate protection for the school. A fire flow analysis will need to be performed in order to determine the available fire flows. If the school does not provide the required flows, additional wells, pumps, storage and hydrants may be required.

Problem – The School District has the following deficiencies:

- ☐ Pat Clinch from the Division of Criminal Investigation indicated in a letter to the school district that the current situation within the Montana City School building will be deficient based on the current 2009 Fire and Building Codes. They are very supportive of the installation of a fire sprinkler system. Also, Montana City Schools have hired TD&H to perform a facility assessment and the top priority from their findings is the lack of a fire sprinkler system. The life and safety risk associated with the lack of fire sprinklers is one that is hard to remedy no matter how hard the staff and teachers work to implement fire drill procedures. Volunteer fire department has indicated concerns for the children's safety, as well as the safety of its fire fighters, because areas of the district are not served by a code compliant sprinkler system.

Proposed Solution – The proposed project would:

- ☐ There appears to be no separation between the elementary wing, the multi-purpose section and the old stone building. Due to the lack of a fire sprinkler system in the school, these three sections are not in full compliance with the building code for maximum allowable area and building type. In order to provide the needed safety for the students, faculty and support staff, we propose installation of a self contained fire storage and pumping system, and the addition of fire sprinklers throughout the existing school buildings.

**Simms High School
Cascade County
Statutory Priority: #2 (Code Compliance)
Quality Schools Grant Program Projects
2013 Biennium**

This application received 162.5 points out of a possible 500 points and ranked #55 out of 66 ranked applications reported to the 2011 Legislature.

Funding Source	Type of Funds	Amount	Project %
Commerce	Project Grant	\$343,198	99% of Project
Simms High School District	General Fund	\$3,100	1% of Project
Project Total		\$346,298	

Project Summary

History – The existing unit ventilators are no longer capable of introducing fresh air due to their pneumatic control, lack of damper control and overall age at the Simms High School. This deficiency results in elevated CO2 levels in several classrooms. The district worked with an engineering firm to take CO2 readings in the facility to identify areas of deficiency. ASHRAE standards recommend that classroom spaces be controlled at less than 1,000 parts per million (ppm) CO2. Field measurements found several areas where the reading exceeded this recommendation, ranging from 1,138 ppm to 1,927 ppm. Poor air quality has been shown to correlate with poor health. It impacts the comfort and health of students and staff, which in turn, can affect concentration, attendance and student performance.

Problem – The School District has the following deficiencies:

- ☐ Unit ventilators are incapable of introducing fresh air into the school environment thereby causing elevated levels of CO2 in several areas.

Proposed Solution – The proposed project would:

- ☐ Replace all existing pneumatic controls with Direct Digital Controls.
- ☐ Replace eight existing unit ventilators with new machinery.

**Simms High School
Cascade County
Statutory Priority: #2 (Code Compliance)
2013 Biennium
Quality Schools Grant Program Projects
2013 Biennium**

This application received 162.5 points out of a possible 500 points and ranked #55 out of 66 ranked applications reported to the 2011 Legislature.

Funding Source	Type of Funds	Amount	Project %
Commerce	Project Grant	\$343,198	99% of Project
Simms High School District	General Fund	\$3,100	1% of Project
Project Total		\$346,298	

Project Summary

History – The existing unit ventilators are no longer capable of introducing fresh air due to their pneumatic control, lack of damper control and overall age at the Simms High School. This deficiency results in elevated CO2 levels in several classrooms. The district worked with an engineering firm to take CO2 readings in the facility to identify areas of deficiency. ASHRAE standards recommend that classroom spaces be controlled at less than 1,000 parts per million (ppm) CO2. Field measurements found several areas where the reading exceeded this recommendation, ranging from 1,138 ppm to 1,927 ppm. Poor air quality has been shown to correlate with poor health. It impacts the comfort and health of students and staff, which in turn, can affect concentration, attendance and student performance.

Problem – The School District has the following deficiencies:

- ☐ Unit ventilators are incapable of introducing fresh air into the school environment thereby causing elevated levels of CO2 in several areas.

Proposed Solution – The proposed project would:

- ☐ Replace all existing pneumatic controls with Direct Digital Controls.
- ☐ Replace eight existing unit ventilators with new machinery.

**Darby K-12 Schools
Ravalli County
Statutory Priority: #6 (Enhances Educational Opportunities)
Quality Schools Grant Program Projects
2013 Biennium**

This application received 185.3 points out of a possible 500 points and ranked #53 out of 66 ranked applications reported to the 2011 Legislature.

Funding Source	Type of Funds	Amount	Project %
Commerce	Project Grant	\$1,190,000	96% of Project
Darby K-12 School District	Misc. Programs	\$50,000	4% of Project
Project Total		\$1,240,000	

Project Summary

History – This project would replace the aging and dilapidated Darby Middle School gymnasium and locker rooms. The gymnasium was constructed in 1951 with a small addition constructed in 1974. The existing facility is 8,000 square feet and the proposed replacement would be about 9,400 square feet. Currently, 250 elementary and middle school students use the facility. Due to the amount of work that ~~needs to be done to bring the existing~~ facility up to code, the cost of renovating is estimated to be within 80% of the cost of a new facility. A renovated facility would still have many shortcomings including a small floor space and multiple levels.

Problem – The school district has the following deficiencies:

- ❑ The multi-level facility is a problem for handicapped students and staff. Existing locker rooms are in the basement of the facility and are only accessible by one narrow flight of stairs. Due to safety risks, the district is not currently allowing students to use the locker rooms and many of the shower and toilet fixtures are broken and beyond repair. The actual gym floor is much smaller than MHSAA standards and the original hardwood floor is at the end of its useful life. The stage is also very small, poorly laid out and badly lit.

Proposed Solution – The proposed project would:

- ❑ Demolish and replace the existing gymnasium facility. The new building would have a floor that meets MHSAA and is large enough to allow for more than one class to take place in the room at one time. The building would be fully accessible and would be built at the same level as the existing school. New locker rooms and showers would also be accessible. A stage would be constructed that is both accessible and large enough to be used for music and drama performances.

**Fairfield Public Schools
Teton County
Statutory Priority: #1 (Public Health & Safety)
Quality Schools Grant Program Projects
2013 Biennium**

This application received 190 points out of a possible 500 points and ranked 52 out of 66 ranked applications reported to the 2011 Legislature.

Funding Source	Type of Funds	Amount	Project %
Commerce	Project Grant	\$545,160.00	100% of Project
Project Total		\$545,160.00	

Project Summary

History – The Fairfield School district kitchen facilities have not been upgraded since this portion of the school was built in 1955. The facility was designed before much attention was paid to efficiency and ergonomics. The work areas have now become a constant contributor to worker's compensation claims and mishaps. The current freezer is approximately 15 feet outside the back door of the kitchen area. The freezer is adjacent to the unloading area for deliveries which also shares the same concrete pad as the garbage dumpsters. This area is often covered with ice and snow creating a fall hazard to people taking out trash or going to the freezer. The current freezer is only 380 cubic feet, where 1300 cubic feet is needed. The kitchen restroom, cooler, dry storage room and freezer are not handicap accessible.

Problem – The school district has the following deficiencies:

- ☐ The Fairfield kitchen area is under sized, poorly laid out and not handicap accessible.

Proposed Solution – The proposed project would:

- ☐ Build a new ADA compliant kitchen with enclosed freezer and dry storage areas that are of appropriate size and design as well as providing ADA compliant restrooms.